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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,266	12/16/2003	Lee Tice	H0006113 8364/90590(SYS-P	5858

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EXAMINER	
NGUYEN, VAN KIM T	
ART UNIT	**PAPER NUMBER**
2456	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/737,266	TICE ET AL.	
	Examiner	Art Unit	
	Van Kim T. Nguyen	2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-10,12,13,16-25 and 30-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-10, 12-13, 16-25, and 30-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to communications filed on January 13, 2009. Claims 3-10, 12-13, 16-25, and 30-33 remain pending in the application.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 13, 2009 has been entered.

Response to Arguments

3. Applicant's arguments filed January 13, 2009 have been fully considered but they are not persuasive.

Regarding claim 30, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the van Bokhorst et al reference is use to show the plurality of wireless units capable of communicating directly with one another, with one station assumes the role of a master station and broadcast synchronizing messages (PSYNC), and other stations desiring to transmit data

messages transmit traffic indicator messages (PTIM) to the appropriate destination stations, in a synchronized awake period just before the next PSYNC is expected to arrive (see abstract).

Though van Bokhorst is silent in using offset or bit priority to determine the order of transmitting data, Lucas et al, and White were combined to fill the gap.

Lucas teaches transmitting data signals at different offsets relative to the synchronizing signal in response to a substantially random number (col. 4: lines 15-36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Lucas' method of correcting frequency in van Bokhorst's system, motivated by the need of improving success in packet detection and acquisition.

White teaches using the bit priority to monitor the priority level, if a competing device is detected, the lower priority device must abort the transmission and relinquish the network to the higher priority device (col. 6: lines 10-33; Figures 4-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employing White's method of regulating system's access based on priority in van Bokhorst-Lucas's system in order to reduce mutually destructive collision.

Thus, van Bokhorst, in view of Lucas and White essentially disclose all limitations as recited in claim 30.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 3-8 and 30-31are rejected under 35 U.S.C. 103(a) as being unpatentable over van Bokhorst et al (US 6,192,230), hereinafter van Bokhorst, in view of in view of Lucas et al (US 7,212,512), and further in view of White (US 6,002,669).

Regarding claims 30-31, as shown in Figures 8-9, van Bokhorst et al discloses an electrical unit (220) comprising:

a wireless communications port (i.e., station 220);

a transceiver coupled to the port (i.e., wireless transceiver 230; Figure 9, col. 7: lines 26-28);

control circuitry coupled to the transceiver, the control circuitry and transceiver have, at least, an inactive mode interrupted by an intermittent, limited duration higher power active mode, the control circuitry including circuitry to monitor the port for receipt of a wireless synchronizing signal, and to enter the active mode a time interval, prior to receipt of subsequent wireless synchronizing signals and to receive other incoming signals with the control circuitry responding to an incoming signal requesting information by transmitting requested information via the transceiver and where the control circuitry simultaneously monitors signals received from the transceiver and determines, using bit arbitration, that a higher priority message is being received and responsive to that determination terminates the transmission (e.g., switch 244, coupled to transceiver 230 of station 220, is either in an awake state or in a doze state, depending on the state of switch 244. Initially when station 220 is powered-up, it is put in an awake state until it receives a traffic indicator message (TIM), which is broadcasted at regular intervals under the control of the TIM timer 62. Switch 244 is switched on to initiate an awake state in response

to the timing out of the timer and is switched off to initiate a doze state; col. 3: line 42 - col. 6: line 16).

Van Bokhorst does not teach establishing an offset from the wireless synchronizing signal, and using bit arbitration to determine that a higher priority message is being received and responsive to that determination terminate the transmission.

Lucas teaches transmitting data signals at different offsets relative to the synchronizing signal in response to a substantially random number (col. 4: lines 15-36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Lucas' method of correcting frequency in van Bokhorst's system, motivated by the need of improving success in packet detection and acquisition.

Van Bokhorst-Lucas does not explicitly disclose transmitting requested information using at least one byte of information having a plurality of bits; for each bits of the plurality of bits, using bit arbitration to determine that a higher priority message is being received; and responsive to that determination, terminates the transmission before completion of the byte.

White teaches transmitting requested information using at least one byte of information having a plurality of bits; for each bits of the plurality of bits, using bit arbitration to determine that a higher priority message is being received; and responsive to that determination, terminates the transmission before completion of the byte (e.g., monitoring the priority level, if a competing device is detected, the lower priority device must abort the transmission and relinquish the network to the higher priority device; col. 6: lines 10-33; Figures 4-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employing White's method of regulating system's access based on priority in van Bokhorst-Lucas's system in order to reduce mutually destructive collision.

Regarding claim 3, van Bokhorst-Lucas-White also discloses additional circuits (234, 236, 246, 247, 248, 250, 253 and 254) to evaluate the received synchronizing signal for the presence of a signal expected indicium, and, responsive thereto, to determine if an additional message is expected (e.g., if the station receives one or more PTIM messages, this means one or more messages are waiting for it, the station then stays in the awake state until it receives the indicated messages from the issuers of all the received PTIM messages; van Bokhorst, col. 9: lines 11-19).

Regarding claim 4, van Bokhorst-Lucas-White et al also discloses circuitry (234, 236, 246, 247, 248, 250, 253 and 254) to extend the active mode and to acquire and respond to any expected additional message (e.g., when the receipt of data messages extends over several PSYNC interval, the doze time is restarted after each PSYNC message, but does not return the station to the doze state; van Bokhorst, col. 9: lines 19-23).

Regarding claim 5, van Bokhorst-Lucas-White also discloses the control circuitry comprises, at least in part, a processor (234) and executable instructions (e.g., mobile station

functions as a hand held data processing device, thus it is obvious it comprises executable instructions; van Bokhorst, col. 3: lines 45-50).

Regarding claim 6, van Bokhorst-Lucas-White also discloses timer circuitry (246), coupled to the processor, for initiating the periodic, limited duration active mode (van Bokhorst, col. 8: lines 36-45).

Regarding claims 7-8, van Bokhorst-Lucas-White also discloses includes executable instructions for transmitting data with a different protocol than a protocol of the received synchronizing signal (e.g., PSYNC messages are broadcast messages, while short messages can be directly transmitted to the station; van Bokhorst, col. 7: line 62-64 and col. 8: lines 53-55).

6. Claims 16-19, 21, 24 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Bokhorst, in view of White.

Regarding claim 32, Van Bokhorst discloses a method which includes transmitting a sequence of common wireless synchronizing signals;

prior to receiving a synchronizing signal, entering an active mode to receive and evaluate the synchronizing signal, and responsive thereto while in the active mode, receiving or transmitting data (e.g., PSYNC messages are broadcast messages, while short messages can be directly transmitted to the station; col. 7: lines 62-64 and col. 8: lines 53-55); and

continuously remaining in the active mode for a period of time at least until no further bytes of data each having a plurality of bits is being received or transmitted (e.g., if there is no

message waiting, the station returns to the doze state; if the station receives one or more PTIM messages, it stays in the awake state after the PSYNC message is received, or until it received the indicated message from the issuers of all the received PTIM messages; col. 9: lines 8-23).

Van Bokhorst does not explicitly disclose conducting bit arbitration while transmitting data, and when through bit arbitration a higher priority message is received, terminating the transmission before completion of the byte.

White teaches conducting bit arbitration while transmitting data, and when through bit arbitration a higher priority message is received, terminating the transmission before completion of the byte (e.g., determining priority and/or sync bit, and if a competing device is detected, the lower priority device must abort transmission and relinquish the network to the higher priority device; col. 6: lines 10-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employing White's method of regulating system's access based on priority in van Bokhorst's system in order to reduce mutually destructive collision.

Regarding claim 33, Van Bokhorst discloses a communication system having at least three devices that can wirelessly transmit and receive signals comprising:

a first device that transmits a sequence of wireless, common, synchronization signals (e.g., station 220-1 assumes the role of the master station and commences transmitting PSYNC messages at regular interval; van Bokhorst, col. 7: lines 59-62);

at least a second device (220-2, 220-3, 220-4) receiving the wireless synchronization signals, the second device synchronizes functions to the synchronization signals such that energy consumption of the second device is increased for a period of time before, during and

immediately after each synchronization signal (i.e., the reception of a PSYNC message at stations 220 other than the master station, i.e., the second device, triggers the doze timer 246 to initiate a doze interval of low power operation; van Bokhorst, col. 8: lines 16-19);

at least a third device receiving the wireless synchronization signals, the third device synchronizes functions to the synchronization signals such that the energy consumption of the third device is increased for a period of time before, during and immediately after each synchronization signal, where the second device is capable of receiving a wireless signal from the third device and the third device is capable of receiving a wireless signal from the second device and where each of the second and third devices carries out a bit arbitration process while wirelessly transmitting signals (i.e., PSYNC messages are transmitted to all stations 220, i.e., the third device, and the reception of a PSYNC message at the third device triggers the doze timer 246 to initiate a doze interval of low power operation (van Bokhorst, col. 8: lines 16-19). All other stations 220, i.e., the second and the third device, can communicate directly with one another (van Bokhorst, col. 7: lines 20-22). If station 220 receives one or more PTIM messages, it will stay in the awake state after the PSYNC message is received until it received the indicated messages from the issuers of all received PTIM messages (van Bokhorst, col. 9: lines 11-23).

However, van Bokhorst does not explicitly disclose each of the second and third devices is capable of receiving a wireless signal having at least one byte of information with a plurality of bits from the other, where each of the devices carries out a bit arbitration process while wirelessly transmitting signals, when, through bit arbitration, the second or third device detects a higher priority message, terminating transmission before completion of the byte.

White each of the second and third devices is capable of receiving a wireless signal having at least one byte of information with a plurality of bits from the other, where each of the devices carries out a bit arbitration process while wirelessly transmitting signals, when, through bit arbitration, the second or third device detects a higher priority message, terminating transmission before completion of the byte (e.g., determining priority and/or sync bit, and if a competing device is detected, the lower priority device must abort transmission and relinquish the network to the higher priority device; col. 6: lines 10-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employing White's method of regulating system's access based on priority in van Bokhorst's system in order to reduce mutually destructive collision.

Regarding claim 16, van Bokhorst-White also discloses the second device or the third device includes a battery 240 (van Bokhorst, col. 7: lines 34-37).

Regarding claim 17, van Bokhorst-White also discloses the synchronization signal is transmitted periodically with a predetermined timing (van Bokhorst, col. 8: lines 5-15).

Regarding claim 18, van Bokhorst-White also discloses the synchronization signal includes at least one of RF frequencies, optical frequencies or sonic frequencies (e.g., since wireless transceiver 230 is coupled to antenna 222, thus it is inherent the synchronization signal received at mobile station s20 includes at lest one of RF frequencies; van Bokhorst, Figures 8-9).

Regarding claims 19, van Bokhorst-White also discloses the synchronizing function includes transmitting a signal representative of a detector state (the start of a SYNC interval and the low-power period is the detection of the PSYNC message, col. 8: lines 27-29).

Regarding claim 21, van Bokhorst-White also discloses the first device receives the transmitted signal (van Bokhorst, Figures 8-9).

Regarding claim 24, van Bokhorst-White also discloses a plurality of devices (220-1 to 220-4) receiving the wireless synchronization signal (van Bokhorst, Figure 8).

7. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Bokhorst-Lucas-White, as applied to claim 7 above, and further in view of O'Scolai (US 7,050,409), hereinafter O'Scolai.

van Bokhorst-Lucas-White fails to disclose executable instructions that sense and decode multiple data signals received from multiple sources substantially simultaneously.

O'Scolai teaches executable instructions that sense and decode multiple data signals received from multiple sources substantially simultaneously (e.g., using Hamming code; col. 5: lines 34-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply O'Scolai's teaching to van Bokhorst-White's system, motivated by the desire of enhancing the quality of transmission and better utilization of network resources.

8. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Bokhorst-White, and further in view of O'Scolai (US 7,050,409), hereinafter O'Scolai.

Regarding claim 12, van Bokhorst-White fails to disclose executable instructions that sense and decode multiple data signals received from multiple sources substantially simultaneously.

O'Scolai teaches executable instructions that sense and decode multiple data signals received from multiple sources substantially simultaneously (e.g., using Hamming code; col. 5: lines 34-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply O'Scolai's teaching to van Bokhorst-White's system, motivated by the desire of enhancing the quality of transmission and better utilization of network resources.

Regarding claim 13, van Bokhorst-White-O'Scolai also discloses includes minimizing energy requirements at a plurality of synchronizing signal receiving locations between such signals (e.g., master station triggers doze timer to initiate doze interval of low power operation; van Bokhorst, col. 8: lines 5-45).

9. Claims 20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Bokhorst-White, in view of O'Scolai.

Regarding claim 20, van Bokhorst discloses substantially all the limitations, except the detector state comprises at least one of an alarm, trouble, voltage, input, or sensor condition.

O'Scolai teaches a system and method for transmitting frequency variation, synchronization at the receiver, and provides a virtual signaling channel which may be used for system alarm and status (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply O'Scolai's teaching to van Bokhorst-White's system, motivated by the desire of enhancing the quality of transmission and better utilization of network resources.

Regarding claim 22, van Bokhorst-O'Scolai also discloses the transmitting of a signal includes at least in part a frequency that is the same as the synchronization frequency (e.g., the start of a SYNC interval occurs at the time of the detection of a PSYNC message; van Bokhorst, Figure 10; see abstract, col. 8: lines 5-35).

Regarding claim 23, van Bokhorst-O'Scolai also discloses the synchronization signal includes variable frequencies (e.g., the transmission of PSYNC can be delayed; van Bokhorst, Figure 12, col. 10: lines 7-15).

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over van Bokhorst-White, as applied to claim 24 above, in view of Lucas.

Van Bokhorst-White discloses substantially all the claimed limitations, except members of the plurality of devices each includes circuitry to transmit data signals at different offsets from

the synchronizing signal in response to at least one of, a substantially random number, or, a unique device identifier.

Lucas teaches members of the plurality of devices each includes circuitry to transmit data signals at different offsets from the synchronizing signal in response to at least one of, a substantially random number, or, a unique device identifier (col. 4: lines 15-36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Lucas' method of correcting frequency in van Bokhorst-White's system, motivated by the need of improving success in packets detection and acquisition.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Van Kim T. Nguyen whose telephone number is 571-272-3073. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Van Kim T. Nguyen
Examiner
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